

In the Claims:

Please amend claims 1, 4, 6, 9, 11-15, 17, 23-24, and 27 cancel claims 3, 8, 18 and 25, and add new claims 30-53, as follows (claims 2, 5, 7, 10, 16, 19-22, 26 and 28-29 are unchanged and are repeated below):

- 1 1. (Amended) A plasma lamp comprising:
2 a source of radio wave radiation;
3 a waveguide structure for coupling said radio wave radiation to a plasma
4 discharge-forming medium so as to excite a plasma discharge, said waveguide
5 structure being composed of solid dielectric material; and
6 a housing for retaining said plasma discharge-forming medium without a
7 light-transmissive bulb envelope and wherein said housing and said waveguide
8 structure provide a single, integrated structure.
- 1 2. (Unchanged) A plasma lamp as recited in Claim 1, wherein said waveguide
2 structure is a resonant structure which supports at least one resonant mode of said
3 radio wave radiation.
- 1 3. (Cancelled)
- 1 4. (Amended) A plasma lamp as recited in Claim 1, wherein said housing is
2 comprised of ceramic material.
- 1 5. (Unchanged) A plasma lamp as recited in Claim 4, wherein said ceramic
2 material includes alumina.
- 1 6. (Amended) A plasma lamp comprising:
2 a source of radio wave radiation;

3 a waveguide structure for coupling said radio wave radiation to a plasma
4 discharge-forming medium so as to excite a plasma discharge said waveguide
5 structure being composed of a ceramic material; and

6 a housing for said plasma discharge-forming medium wherein said
7 housing and said source of radio wave radiation are positioned at substantially
8 opposite ends of said waveguide structure and wherein said housing and said
9 waveguide structure provide a single, integrated structure.

1 7. (Unchanged) A plasma lamp as recited in Claim 6, wherein said waveguide
2 structure is a resonant structure which supports at least one resonant mode of said
3 radio wave radiation.

1 8. (Cancelled)

1 9. (Amended) A plasma lamp as recited in Claim 6, wherein said housing is
2 comprised of another ceramic material.

1 10. (Unchanged) A plasma lamp as recited in Claim 9, wherein said other
2 ceramic material includes alumina.

1 11. (Amended) A plasma lamp as recited in Claim 6, wherein said ceramic
2 material includes alumina.

1 12. (Amended) A plasma lamp as recited in Claim 6, wherein said ceramic
2 material includes titanium dioxide.

1 13. (Amended) A plasma lamp as recited in Claim 6, wherein said ceramic
2 material includes barium neodymium titinate.

1 14. (Amended) A plasma lamp as recited in Claim 9, wherein said other ceramic

1 15. (Amended) A plasma lamp comprising:

2 a source of radio wave radiation;

3 a waveguide structure for coupling said radio wave radiation to a plasma
4 discharge-forming medium so as to excite a plasma discharge wherein said
5 waveguide structure is a resonant structure which supports at least one resonant
6 mode of said radio wave radiation;

7 a housing for said plasma discharge-forming medium; and

8 wherein said waveguide structure is composed of a first ceramic material
9 and said housing is formed from a second ceramic material and includes a
10 window that is transmissive of visible light wherein said housing and said
11 waveguide structure are integrated into a single structure.

1 16. (Unchanged) A plasma lamp as recited in claim 15, wherein said window is
2 formed from sapphire.

1 17. (Amended) A plasma lamp as recited in Claim 15, wherein said housing is
2 positioned at an end of said waveguide structure opposite that of the source of
3 radio wave radiation.

1 18. (Cancelled)

1 19. (Unchanged) A plasma lamp as recited in Claim 15, wherein said second
2 ceramic material includes alumina.

1 20. (Unchanged) A plasma lamp as recited in Claim 15, wherein said first
2 ceramic material includes alumina.

1 21. (Unchanged) A plasma lamp as recited in Claim 15, wherein said first
2 ceramic material includes titanium dioxide.

1 22. (Unchanged) A plasma lamp as recited in Claim 15, wherein said first
2 ceramic material includes barium neodymium titinate.

1 23. (Amended) A plasma lamp as recited in Claim 15, wherein said second
2 ceramic material is the same material as said first ceramic material.

1 24. (Amended) A plasma lamp comprising:
2 a housing containing a plasma discharge-forming medium, said housing
3 being of ceramic material and including a window that is transmissive of visible
4 light produced by said plasma discharge wherein said window comprises
5 sapphire;
6 a source of electromagnetic energy; and
7 means for coupling said electromagnetic energy to the plasma discharge-
8 forming medium so as to excite a plasma discharge.

1 25. (Cancelled)

1 26. (Unchanged) A plasma lamp as recited in Claim 24, wherein said ceramic
2 material comprises alumina.

1 27. (Amended) A plasma lamp as recited in Claim 24, wherein the source of
2 electromagnetic energy and the housing are within the ceramic material as an
3 integrated structure.

1 28. (Unchanged) A plasma lamp as recited in Claim 27, wherein said source of
2 electromagnetic energy comprises electrical coils.

1 29. (Unchanged) A plasma lamp as recited in Claim 27, wherein said source of
2 electromagnetic energy comprises an antenna.

1 30. (New) A plasma lamp as recited in Claim 28, further comprising
2 segments of ferrite adjacent to the electrical coils.

1 31. (New) A plasma lamp as recited in Claim 24, wherein said window is
2 tapered and conical.

1 32. (New) A plasma lamp comprising:
2 a source of radio wave radiation;
3 a waveguide structure for coupling said radio wave radiation to a plasma
4 discharge-forming medium so as to excite a plasma discharge;
5 a housing for said plasma discharge-forming medium; and
6 wherein said waveguide structure is composed of a first ceramic material
7 and said housing is formed from a second ceramic material and includes a
8 window that is transmissive of visible light wherein said window comprises
9 sapphire.

1 33. (New) A plasma lamp as recited in Claim 32, wherein said waveguide
2 structure is a resonant structure which supports at least one resonant mode of said
3 radio wave radiation.

1 34. (New) A plasma lamp as recited in Claim 32, wherein said housing and said
2 waveguide structure are integrated into a single structure.

1 35. (New) A plasma lamp as recited in Claim 32, wherein said second ceramic
2 material includes alumina.

1 36. (New) A plasma lamp as recited in Claim 32, wherein said first ceramic
2 material includes alumina.

1 37. (New) A plasma lamp as recited in Claim 32, wherein said first ceramic

1 38. (New) A plasma lamp as recited in Claim 32, wherein said first ceramic
2 material includes barium neodymium titanate.

1 39. (New) A plasma lamp as recited in Claim 32, wherein said second ceramic
2 material is the same material as said first ceramic material.

1 40. (New) A plasma lamp comprising:
2 a housing having a window sealed to said housing for containing a plasma
3 discharge-forming medium, said housing being of ceramic material and said
4 window being transmissive of visible light produced by said plasma discharge;
5 a source of electromagnetic energy wherein the source of electromagnetic
6 energy and the housing are within the ceramic material as an integrated structure;
7 and
8 means for coupling said electromagnetic energy to the plasma discharge-
9 forming medium so as to excite a plasma discharge.

1 41. (New) A plasma lamp as recited in Claim 40, wherein said window
2 comprises sapphire.

1 42. (New) A plasma lamp as recited in Claim 40, wherein said ceramic material
2 comprises alumina.

1 43. (New) A plasma lamp as recited in Claim 40, wherein said source of
2 electromagnetic energy comprises electrical coils.

1 44. (New) A plasma lamp as recited in Claim 40, wherein said source of
2 electromagnetic energy comprises an antenna.

1 45. (New) A plasma lamp as recited in Claim 43, further comprising segments of

1 46. (New) A plasma lamp as recited in Claim 40, wherein said window is
2 tapered and conical.

1 47. (New) A plasma lamp as recited in Claim 1, wherein said housing includes a
2 window that is transmissive of visible light.

1 48. (New) A plasma lamp as recited in Claim 47, wherein said window is
2 sapphire.

1 49. (New) A plasma lamp as recited in Claim 47, wherein said window is
2 tapered and conical.

1 50. (New) A plasma lamp as recited in Claim 1, wherein said waveguide
2 structure has a cross-section of varying dimension for matching impedance of the
3 waveguide to that of the housing.

1 51. (New) A plasma lamp as recited in Claim 1, further comprising alumina
2 deposited along an inner boundary of the housing.

1 52. (New) A plasma lamp as recited in Claim 1, wherein an interior of the
2 housing is coated with a film of MgO.

1 53. (New) A plasma lamp as recited in Claim 6, wherein said waveguide
2 structure has a cross-section of varying dimension for matching impedance of the
3 waveguide to that of the housing.

1 54. (New) A plasma lamp comprising:
2 a source of radio wave radiation;
3 a waveguide structure for coupling said radio wave radiation to a plasma

5 waveguide structure is a resonant structure which supports at least one resonant
6 mode of said radio wave radiation and said waveguide structure being composed
7 of solid dielectric material; and

8 a housing for said plasma discharge-forming medium wherein said
9 housing is substantially enclosed by said waveguide structure.

1 55. (New) A plasma lamp as recited in Claim 54, further comprising a bulb
2 envelope for retaining the plasma discharge-forming medium.

1 56. (New) A plasma lamp as recited in Claim 55, wherein said bulb is comprised
2 of quartz.

1 57. (New) A plasma lamp as recited in Claim 55, wherein said bulb is comprised
2 of sapphire.

1 58. (New) A plasma lamp as recited in Claim 54, wherein said gas housing is
2 comprised of ceramic.

1 59. (New) A plasma lamp as recited in Claim 58, wherein said ceramic includes
2 alumina.

1 60. (New) A plasma lamp as recited in Claim 58, wherein said waveguide
2 structure is composed of ceramic including titanium dioxide.

1 61. (New) A plasma lamp as recited in Claim 58, wherein said waveguide
2 structure is composed of ceramic including barium neodymium titanate.